S/058/62/000/002/022/053
A058/A101

AUTHORS: Koshkin, N. I., Obraztsov, V. I., Yakovlev, V. F.

TITLE: Flow method for the ultrasonic cleaning of microwires

PERIODICAL: Referativnyy zhurnal, Fizika, no. 2, 1962, 44, abstract 2G336
              (V sb. "Primeneniye ul'traakust. k issled. veshchestva", v. 14,
              Moscow, 1961, 21-31)

TEXT: There was developed an experimental setup for the ultrasonic cleaning
of moving microwire. The setup enables one to carry out cleaning at wire speeds
of motion up to 25-30 m/min. Ultrasonic cleaning improves the insulating quality
of microwave enamel several times over. It was established that under the con-
ditions of the problem that is set (the degree of contamination of the wire),
it is possible to use as the working liquid any organic solvent that more or less
satisfactorily dissolves fats of vegetable origin. It is held that in some cases
cleaning can be carried out in ordinary tap water. Cleaning in water gives good
results especially in those cases when the degree of fat contamination is low.

[Abstracter's note: Complete translation]

Card 1/1

S/058/63/000/001/111/120
A062/A101

AUTHOR: Zipir, A. D., Yakovlev, V. F.

TITLE: Systematic error of the pulse method

PERIODICAL: Referativnyy zhurnal, Fizika, no. 1, 1963, 72, abstract 1Zh428
             (In collection: "Primeneniye ul'trakust. k issled. veshchestva".
             no. 15, Moscow, 1961, 49 - 53)

TEXT: A theoretical analysis is carried out by means of a spectral repre-
sentation of a pulse. It is shown that the systematic error, introduced by the
pulse method into the absorption coefficient measured by the amplitude decrease,
pertaining to the signal carrier frequency, can be reduced to a value considerably
less than the experiment errors, if utilizing signals of a definite length.

[Abstracter's note: Complete translation]

Card 1/1

PEREPECHKO, I.I.; YAKOVLEV, V.F.

Measurement of the absorption of ultrasound in gases by means of an interferometer. Akust. zhur. 7 no.1:101-102 '61.
(MIRA 14:4)

1. Moskovskiy oblastnoy pedagogicheskiy institut imeni N. K. Krupskoy.
(Ultrasonic waves)   (Interferometer)

PEREPECHKO, I.I. ; YAKOVLEV, V.F.

Ultrasonic absorption in monatomic gases. Akust.zhur. 7 no.2:266-
267 '61.   (MIRA 14:7)

1. Moskovskiy oblastnoy pedagogicheskiy institut imeni N.K.Krupskoy.
            (Absorption of sound)   (Gases, Rare)

YAKOVLEV, V.F., kand. tekhn. nauk, dotsent

Studying the contact stresses in wheel and rail elements
due to the action of vertical and tangential forces. Sbor.
trud. LIIZHT no.187:3-89 '62.   (MIRA 16:8)

24,1300 (1327,1482)
24,1800 (1063,1144)

AUTHORS: Voytonis, V. V., Yakovlev, V. F.

TITLE: Remarks on an interferometric method of measuring ultrasonic absorption

PERIODICAL: Akusticheskiy zhurnal, v. 8, no. 1, 1962, 131 - 132

TEXT: The conditions laid down by I. I. Perepenko, V. F. Yakovlev (Akust. zh., 1961, $\underline{7}$, 1, 101 - 102) in the approximate calculation of the ultrasonic absorption coefficient from the tension variation in the quartz of the interferometer are omitted. With the aid of the formulations valid for $r \gg \lambda/4$, $V_{1\,min} = V_0'\,\mathrm{th}(\alpha r_1 + \beta) + V''$, $V_{2\,min} = -V_0'\,\mathrm{th}(\alpha r_2 + \beta) + V''$, the solution $\alpha = \dfrac{1}{r_2 - r_1}\left(\mathrm{Arth}\sqrt{NR} - \mathrm{Arth}\sqrt{N/R}\right)$ (4) is obtained from

$$V_{1\,max} = V_0'\,\mathrm{cth}(\alpha r_1 + \beta) + V'', \quad V_{1\,min} = V_0'\,\mathrm{th}\left(\alpha r_1 + \frac{\alpha\lambda}{4} + \beta\right) + V'',$$

$$V_{2\,max} = V_0'\,\mathrm{cth}(\alpha r_2 + \beta) + V'', \quad V_{2\,min} = V_0'\,\mathrm{th}\left(\alpha r_2 + \frac{\alpha\lambda}{4} + \beta\right) + V''. \qquad (1)$$

Card 1/3

Remarks on an interferometric...

$$N = \frac{V_{2\,min} - V_{1\,min}}{V_{1\,max} - V_{2\,max}} = \text{th}\,\varphi_1 \cdot \text{th}\,\varphi_2, \qquad (2)$$

$$R = \frac{V_{1\,max} - V_{1\,min}}{V_{2\,max} - V_{2\,min}} \approx \frac{\text{th}\,\varphi_2}{\text{th}\,\varphi_1},$$

, and

$$R = \frac{V_{1\,max} - V_{2\,min}}{V_{2\,max} - V_{1\,min}} = \frac{\text{cth}\,\varphi_1 - \text{th}\,\varphi_2}{\text{cth}\,\varphi_2 - \text{th}\,\varphi_1} = \frac{\text{th}\,\varphi_2}{\text{th}\,\varphi_1}. \qquad (3)$$

$\text{th}^2\varphi_1 = N/R$, $\text{th}^2\varphi_2 = NR$, or $\alpha r_1 + \beta = \text{Arth}\,\overline{\sqrt{N/R}}$, $\alpha r_2 + \beta = \text{Arth}\,\overline{\sqrt{NR}}$. $\alpha r + \beta$ need not be assumed small for (3). The only restriction remaining for (4), $r \gg \lambda/4$, can be observed in media with very strong absorption. In this case, the restriction can be avoided by using the two adjacent minima lying close to V_{max}. This corresponds to the replacement of the hyperbolic tangent curves lying between two adjacent minima by a straight line. There is 1 Soviet reference.

Card 2/3

Remarks on an interferometric...

S/046/62/008/001/015/018
B125/B102

ASSOCIATION: Moskovskiy oblastnoy pedagogicheskiy institut im. N. K. Krupskoy (Pedagogical Institute imeni N. K. Krupskaya of the Moskovskaya Oblast')

SUBMITTED:: June 9, 1961

Card 3/3

43202

S/046/62/008/004/002/017
B108/B186

24,18?0

AUTHORS: Bashlachev, Yu. A., Voytonis, V. V., Yakovlev, V. F.

TITLE: An interferometer with two crystal transducers

PERIODICAL: Akusticheskiy zhurnal, v. 8, no. 4, 1962, 412-414

TEXT: An acoustic interferometer with two generating crystals makes it possible to increase the reaction and to study gases and liquids at higher frequencies than with an ordinary interferometer. Each of the two transducers emits ultrasonic waves directed towards the other, thereby superimposing the emitted and reflected waves. It is shown that the interference maxima of both waves appear at every integral multiple of λ and not at every half-integral multiple as in the case of ordinary interferometers. If the amplitudes of the waves emitted from the two transducers are not equal, additional maxima will arise at every $r = (2n+1)\lambda/2$. The absorption coefficient of the fluid under examination can be found from the spacing between the maxima and from the impedance of the interferometer. The accuracy attained with such a two-crystal interferometer is better than with ordinary interferometers. There are 1 figure and 1 table.

Card 1/2

An interferometer with two...

S/046/62/006/004/002/017
B108/B186

ASSOCIATION: Moskovskiy pedagogicheskiy institut im. N. K. Krupskoy
(Moscow Pedagogical Institute imeni N. K. Krupskaya)

SUBMITTED: November 30, 1961

Card 2/2

S/058/63/000/001/102/120
A062/A101

24,1700

AUTHORS: Voytonis, V. V., Yakovlev, V. P.

TITLE: A free quartz interferometer

PERIODICAL: Referativnyy zhurnal, Fizika, no. 1, 1963, 67 - 68, abstract
1Zh403 (In collection: "Primeneniye ul'trazvuk k issled, ve-
shchestva.", no. 16, Moscow, 1962, 117 - 120)

TEXT: The authors report on preliminary results of an experimental test
on the possibility of utilizing a free quartz for a study of ultra-sound ab-
sorption. An exemplary shape is given of the frequency characteristic of a
quartz radiator fixed in the quartz holder of an interferometer. The cause of
the various resonance properties of different zones of the radiator surface may
reside in the effect of the quartz holder on it. The frequency characteristic
was plotted for the quartz cleaned off from the metal coating and placed in an
air condenser, with one face of the quartz lying on the lower plate of the con-
denser and the other being free. Judging on the characteristic, which showed
a very sharp peak, the quartz is in this case similar to a piston radiator. For

Card 1/2

A free quartz interferometer

S/058/63/000/001/102/120
A062/A101

verification, an interferometer whose schematic diagram is given, was constructed. Its main feature was the presence of a wire grid at 3 mm from the quartz surface for conserving the homogeneity of the electric field in the space between the plates. The diffraction effects are small enough to be neglected. Primary measurements were carried out in argon on the frequency 497 kc/s with the aid of an interferometer of another design. The results of secondary measurements in argon with the described interferometer are presented in the form of a graph. Calculation of the absorption coefficient, carried out by methods set forth in the article, permits the conclusion that the correction to the indications of the interferometer lies within the error limits. In measurements by a usual interferometer this correction is generally of the same order as the absorption coefficient.

I. Nikolayeva

[Abstracter's note: Complete translation]

Card 2/2

AUTHORS: Voytonis, V. V., Yakovlev, V. F.

TITLE: Calculation of the ultrasound absorption coefficient from the structure of the peaks of the reaction curve of an interferometer

PERIODICAL: Akusticheskiy zhurnal, v. 9, no. 1, 1963, 116 - 118

TEXT: The calculation of the ultrasound absorption coefficient of gases is based on the theory of interferometers and may be used without any assumptions as to the value of α. Making use of results obtained by U. P. Mezon (P'yezoelektricheskiye kristally i ikh primeneniye v ultra-akustike - Piezoelectric crystals and their utilization in ultraacoustics, M., IL, 1952, p. 279)

$$\alpha = \frac{1}{r_2 - r_1}\left(\text{Arth}\frac{Z_{\lambda/8} - Z_{2\,min}}{Z_{2\,max} - Z_{\lambda/8}} - \text{Arth}\frac{Z_{\lambda/8} - Z_{1\,min}}{Z_{max} - Z_{\lambda/8}} \right), \qquad (5)$$

is obtained, where Z_{max} and Z_{min} are the impedances of the interferometer at $r = 2n\lambda/4$ and $r = (2n+1)\lambda/4$, respectively; r is the distance between

Card 1/2

Calculation of the ultrasound...

emitter and reflector. $Z_{\lambda/8}$ is the impedances at $r = (2n+1)\lambda/8$. If the high-frequency voltage at the emitter is measured (I. I. Perepechko, V. F. Yakovlev, Akust. zh., 1961, 7, 1, 101 - 102),

$$a = \frac{1}{r_1 - r_1}\left(\text{Arth}\,\frac{V_{\lambda/8} - V_{2\,min}}{V_{2\,max} - V_{\lambda/8}} - \text{Arth}\,\frac{V_{\lambda/8} - V_{1\,min}}{V_{1\,max} - V_{\lambda/8}}\right).$$

is obtained.

ASSOCIATION: Moskovskiy oblastnoy pedagogicheskiy institut im. N. K. Krups-koy (Moscow Oblast' Pedagogical Institute imeni N. K. Krups-kaya)

SUBMITTED: June 8, 1962

Card 2/2

YAKOVLEV, V.F. (Moskva)

Motion of some mechanical systems with variable masses. Izv.AN
SSSR.Mekh. i mashinostr. no.5:198-202 S-O '63.   (MIRA 16:12)

AMELIN, S.V., doktor tekhn. nauk, prof.; SMIRNOV, M.P., kand. tekhn. nauk, dotsent; YAKOVLEV, V.F., kand. tekhn. nauk, dotsent

Effect of the narrowing of the gauge on the state of stress of railroad tracks and on the smoothness of train movement. Sbor. trud. LIIZHT no.191:3-27 '63.

State of stress and deformations of type R50 switches of the 1/11 marking at a gauge width of 1518 millimeter on the running track and of 1530 millimeter on the track leading into sidings. Ibid.:28-107

Switches of the 1/11 marking for high-speed traffic in the straight direction.   Ibid.:108-123   (MIRA 16:12)

BASHLACHEV, Yu.A.; YAKOVLEV, V.F.

Oscillatory relaxation in thiophene vapors. Akust. zhur. 10
no.2:241-242 '64.   (MIRA 17:6)

1. Moskovskiy oblastnoy pedagogicheskiy institut imeni
N.K. Krupskoy.

L 17524-65   EWT(m)/EWP(v)/EWP(t)/EWP(k)/EWP(b)   Pf-4   AFTC(p)   JD/HM

ACCESSION NR: AP5002651   S/0095/64/000/009/0017/0018

AUTHOR: Yakovlev, V. F.

TITLE: Use of centralized feeding of joint preheaters during tube welding in β
the Yakut Region   18

SOURCE: Stroitel'stvo truboprovodov, no. 9, 1964, 17-18

TOPIC TAGS: welding equipment

ABSTRACT: The brief note describes a simple feeder system consisting of a tank, compressor connection, manometer, and multiple connection tube suitable for simultaneous servicing of several preheaters of tube joints. The device proved to be very successful for welding pipe joints at very low ambient temperature. Orig. art. has 1 diagram.

ASSOCIATION: Trest Nefteprovodmontazh, Ufa (Trust for Petroleum Installation)

SUBMITTED: 00   ENCL: 00   SUB CODE: IE

NO REF SOV: 000   OTHER: 000   JPRS

Card 1/1

L 46310-65   EWT(1)/T/EWP(k)   Pf-4/Pi-4

UR/0058/65/000/003/H081/H081

ACCESSION NR: AR5012304

SOURCE: Ref. zh. Fizika, Abs. 3Zh498

AUTHOR: Leonova, L. A.; Yakovlev, V. F.

TITLE: Ultrasonic relaxation absorption in mixtures of ethyl acetate and acetic acid

CITED SOURCE: Uch. zap. Irkutskiy gos. ped. in-t, vyp. 21, 1964, 102-109

TOPIC TAGS: ultrasonic relaxation absorption, ultrasonic absorption, liquid ultrasonic absorption

TRANSLATION: Ultrasonic absorption in mixtures of two relaxing liquids (acetic acid and ethyl acetate) was investigated. Graphs showing the relation between α/ν as a function of frequency for this mixture have been obtained and variation of the position of the maximum of this as a function of concentration (3 and 12% acetic acid in ethyl acetate) has been determined. Relaxation frequency ν_t was determined from relaxation parameters from test data on absorption. Three points on the experimental curve of $\alpha/\nu^2 = f(\nu)$ were selected: two at the ends of the curve and one in the middle. Taking values of α/ν^2 corresponding to these points and solving

Card 1/2

L 46310-65

ACCESSION NR: AR5012304   O

a system of three equations of the type: $\alpha/v^2 = B + A/(1 + v^2/v_t^2)$, relaxation param-
eters A, B and v_t were found. The relation of α/v to frequency for a 3%-mixture
calculated by this method is presented. For an increase of the concentration of
acetic acid the maximum of this function increases, and the relaxation frequency
shifts to the low frequency side. A table of values of frequency and relaxation
time τ are presented: for an increase of the concentration of acetic acid τ
increases. A graph of v_r as a function of concentration is shown. The reason for
the variation of v_r with concentration in mixtures of acetic acid and in associated
liquids is analyzed. It is postulated that an unassociated solvent decreases the
activation energy and less time is required for recovery of equilibrium. According
to calculations the enthalpy of activation is 8.85 kcal/mol for acetic acid, 7.4
kcal/mol for a mixture of 44.5% acetic acid in ethyl acetate and 3.01 kcal/mol for
8.24% ethyl acetate and acetic acid. The following conclusions are made: 1)
results of ultrasonic absorption measurements in a mixture of acetic acid and ethyl
acetate in the 1-10 mc range is described well by relaxation theory with one relax-
ation time; 2) calculation of α/v as a function of frequency yields a maximum of
this function in all investigated mixtures; 3) relaxation frequency is a function
of acetic acid concentration. I. Nikolayeva

SUB CODE: GP   ENCL: 00

Card 2/2

L 36103-66   EWT(m)/T/EWP(t)/ETI   IJP(c)   JD/GD

ACC NR: AT6013178   (A)   SOURCE CODE: UR/0000/61/000/000/0021/0031

AUTHORS: Koshkin, N. I.; Obraztsov, V. I.; Yakovlev, V. P.

39
BH

ORG: none

TITLE: Continuous ultrasonic method for cleansing microwire

SOURCE: Moscow. Oblastnoy pedagogicheskiy institut. Primeneniye ul'traakustiki k issledovaniyu veshchestva, no. 14, 1961, 21-31

TOPIC TAGS: fine wire, fine wire technology, insulated wire, ultrasonic cleaning, ultrasonic application, microwire

ABSTRACT: A continuous ultrasonic method for cleansing microwires is presented. The method was developed by the Laboratory of Molecular Acoustics MOPI imeni N. K. Krupskaya (Laboratoriya moleculyarnoy akustiki MOPI) at the request of the Moscow Transmission Cables Industry. A schematic of the experimental installation is presented. The best results were obtained with a frequency of 700--1000 kilocycles and a power expenditure of 2--4 w/cm^2. The experimental results are tabulated (see Table 1). The use of common organic solvents as the working liquid was quite satisfactory and in some cases, when the level of natural oils on the surface of the wires was relatively low, ordinary tap water could be used as the working liquid.

Card 1/2

L 36103-66

ACC NR: AT6013178

No. of reel*	Average number of point defects in the insulation of a 15-m specimen	
	without ultrasound	with ultrasound
1	5,000	1,300
2	1,129	0,726
3	12,210	0,230
4	25,000	0,500
5	2,120	0,000
6	1,470	0,600
7	3,703	0,367
8	0,433	0,133

* Each reel had 800--1000 m wire

Table 1. Results of determination of point defects of enameled constantan wire of 0.15 mm diameter.

Orig. art. has: 2 tables and 5 figures.

SUB CODE: 14, 13, 20/SUBM DATE: 22Apr61

Card 2/2

L 32984-66   ENT(1)/EWP(e)/ENT(m)/T/EWP(k)   WH
SOURCE CODE: UR/0058/65/000/011/H060/H060

ACC NR: AR6016264

AUTHOR: Kononenko, V. S.; Yakovlev, V. F.

TITLE: Increase of accuracy of measurements of the damping of ultrasonic waves in liquids by a pulse method

SOURCE: Ref. zh. Fizika, Abs. 11Zh414

REF SOURCE: Sb. Primeneniye ul'taakust. k issled. veshchestva. Vyp. 20. M., 1964, 21-27

TOPIC TAGS: ultrsound, acoustic measurement, acoustic damping

ABSTRACT: To increase the accuracy of measurement of the damping of ultrasound at frequencies 1 - 10 Mc, an attenuator of the mutual-induction type was used, with small inductance coils, transmitting (18 turns of copper wire 1 mm in dia) and receiving (12 turns). The coil diameter was 18 mm. A matching resistance was connected to the receiving coil. At frequencies 1 - 10 Mc, it is better to use a stepped ohmic attenuator made of non-inductive resistances, placing it in the circuit of a cathode follower whose high-resistance input effects slight shunting action on the quartz and on the oscillator. The low-frequency attenuators considered have an accuracy margin up to 0.02 db. O. Kapustina. [Translation of abstract]

SUB CODE: 20, 09

Card 1/1 BK

L 04094-67   EWP(j)/EWP(k)/EWT(1)/EWT(m)/T   RM

SOURCE CODE: UR/0058/66/000/003/E004/E004

ACC NR: AR6023278

43
B

AUTHOR: Bashlachev, Yu. A.; Yakovlev, V. F.

TITLE: Propagation of ultrasound in furane vapor

SOURCE: Ref zh. Fizika, Abs. 3E25

REF SOURCE: Tr. 1-y Mezhvuz. nauchn. konferentsii po primeneniyu molekul. akust. k issled. veshchestva i v nar. kh-ve. Tashkent, 1964, 35-43

TOPIC TAGS: ultrasonic propagation, relaxation process, ultrasound absorption

ABSTRACT: Results are presented of measurements of velocity and absorption of ultra-sound in C_4H_4O vapor in the region 0.4 - 40 Mcs/atm at temperatures 24 - 80°. The results are described by a relation of the relaxation type. The nature of the relaxa-tion process is explained as being due to "dropping out" of vibrational degrees of freedom of the molecules. The character of the dependence of the relaxation period on the density offers evidence that the relaxation in the gaseous and liquid phases is of the same type. [Translation of abstract]

SUB CODE: 20

kh

Card 1/1

L 04088-67   EWP(k)/EWT(l)/T

ACC NR: AR6023296   SOURCE CODE: UR/0058/66/000/003/H069/H069

AUTHOR: Zipir, A. D.; Yakovlev, V. F.

TITLE: Use of multiple echo pulses for the measurement of absorption of ultrasound in liquids

SOURCE: Ref zh. Fizika, Abs. 3Zh483

REF SOURCE: Tr. 1-y Mezhvuz. nauchn. konferentsii po primeneniyu molekul. akust. k issled. veshchestva i v nar. kh-ve. Tashkent, 1964, 181-186

TOPIC TAGS: ultrasound absorption, liquid property, acoustic damping, absorption coefficient, acoustic measurement, error minimization

ABSTRACT: A study of the multiple echo signal observed in liquids has shown that it can be used for the measurement of absorption of ultrasound in liquids at frequencies less than 5 - 7 Mcs, where other ultrasonic methods are difficult to use. Measurements were made in the 2.3 - 9 Mcs range in benzene, toluene, and ethyl alcohol, the attenuation for which was measured by many authors. Comparison with the published data has shown good agreement and permits the conclusion that this method can be used to investigate liquids with absorption coefficients $(3 - 4) \times 10^{-3}$ cm^{-1}, which is one orfer of magnitude lower than the values that can be handled by the usual pulse methods, and corresponds on the high-frequency side to values which are amenable to measurement with the aid of the reverberation method. The measurements were made with an x-cut quarts of 3.5 cm diameter. By increasing the quartz dia-

Card 1/2

T. 04088-67

ACC NR: AR6023296

meter it is possible to broaden the frequency range. The measurement error de-
creases by a factor n compared with the error of the usual pulse method (n is the
number of counted pulses). The measurement accuracy is 6 - 8% and increases with
increasing frequency and attenuation to 3 - 5%. The path traversed by the pulse can
amount to several meters, which greatly exceeds the Fresnel zone; if it is assumed
that it is simply reflected from the reflector and from the receiver, then the cor-
rection for the divergence of the beam gives a value which is incompatible with the
attenuation-measurement results. The authors therefore propose that re-radiation
(re-broadcast) of the ultrasound signal occurs upon reflection from the quartz. Such
an interpretation makes it possible to neglect the divergence of the beam on the
additional path, and the attenuation in it greatly exceeds the attenuation due to
the broadening, so that it can be disregarded. A. Shpil'kin. [Translation of
abstract]

SUB CODE: 20

kh

Card 2/2

ACC NR: AR6023295   SOURCE CODE: UR/0058/66/000/003/H069/H069

AUTHOR: Voytonis, V. V.; Yakovlev, V. F.

TITLE: Calculation of the absorption coefficient of ultrasound from the structure of the peak on the interferometer reaction curve

SOURCE: Ref zh. Fizika, Abs. 3Zh482

REF SOURCE: Tr. 1-y Mezhvuz. nauchn. konferentsii po primeneniyu molekul. akust. k issled. veshchestva i v nar. kh-ve. Tashkent, 1964, 175-180

TOPIC TAGS: ultrasound absorption, interference measurement, absorption coefficient, acoustic damping, error minimization

ABSTRACT: The possibility is considered of increasing the accuracy of measurement of attenuation of ultrasound with the aid of an interferometer, by taking into account the influence of certain uncontrollable errors, for example the frequency drift or the change in the generator amplitude. To eliminate the influence of such uncontrollable errors, it is proposed to carry out the calculation in terms of several quantities, which are measured almost simultaneously and depend little on the general variation of the envelope of the reaction curve. The calculation of the attenuation coefficient is based on three values of the high frequency-voltages across a quartz converter at points $r = (2n + 1)\lambda/8$, where λ is the sound wavelength and n is an integer. The proposed method is applicable for the reduction of the results of measurements of attenuation in argon and in xenon. V. Lyamov. [Translation of abstract]

SUB CODE: 20

Card 1/1

ACC NR: AP6029527   (N)   SOURCE CODE: UR/0046/66/012/003/0296/0300

AUTHOR: Voytonis, V. V.; Yakovlev, V. F.

ORG: Moscow Regional Pedagogical Institut im. N. K. Krupskaya (Moskovskiy oblastnoy pedagogicheskiy institut)

TITLE: Measurement of absorption of ultrasound in gases by an acoustic interferometer method

SOURCE: Akusticheskiy zhurnal, v. 12, no. 3, 1966, 296-300

TOPIC TAGS: ultrasound absorption, acoustic measurement, interference measurement, absorption coefficient, quartz crystal, argon, xenon, relaxation process

ABSTRACT: The authors point out that in spite of its high precision, the acoustic interferometer has not been used extensively for the measurement of absorption of ultrasound, and that experimental results obtained by various workers differ greatly from one another. The authors therefore analyze the causes of the low accuracy of interferometic measurements of the absorption coefficient, and suggest that the main reason is that even when the acoustic length of the interferometer is changed considerably, the difference between neighboring voltage minima amounts to only several per cent of the resonant peak of the interferometer. This small quantity can be subject to large error if the apparatus is not perfectly stable. The maximum and minimum values of the voltage on the quartz crystal at the extremal points are determined in terms of the voltage of the equivalent generator and the circuit parameters, and an

Card 1/2   UDC: 534.286-8/ 534.231.1-13

ACC NR: AP6029527

expression for the impedance of the interferometer and for the voltage on the plate
is derived by a graphic construction. A graphic method is then presented for the
calculation of the ultrasound absorption coefficient, the results of which are com-
pared with results of measurements in argon and xenon. The measurements agree with
the theoretical predictions. An advantage of the proposed calculation method is that
no additional corrections for the absorption coefficients are necessary, making it
especially advantageous for the investigation of gases in the region of relaxation
processes. Orig. art. has: 3 figures, 2 formulas, and 1 table.

SUB CODE: 20/   SUBM DATE: 10Nov64/   ORIG REF: 004/   OTH REF: 011

Card 2/2

ACC NR: AR6013646   SOURCE CODE: UR/0058/65/000/010/E003/E003

AUTHOR: Yakovlev, V. F.; Seregina, V. I.

TITLE: Transfer phenomena in ideal gases

SOURCE: Ref. zh. Fizika, Abs. 10E16

REF SOURCE: Uch. zap. Mosk. obl. ped. in-ta, v. 147, 1964, 165-173

TOPIC TAGS: ideal gas, heat conductivity

TRANSLATION: Semiphenomenological qualitative considerations are used to make a
change in the form of Aiken's expression for the coefficient of heat conductivity of
a monoatomic ideal gas.

SUB CODE: 20

Card 1/1

AMELIN, S.V., doktor tekhn. nauk, prof.; ANDREEV, N.A., kand. tekhn. nauk, dotsent; YAKOVLEV, V.F., kand. tekhn. nauk, dotsent

Dynamic testing of Class 1/2 switches. Vest. TSNII MPS 23 no.5:
3-7 '64.
(MIRA 17:11)

1. Leningradskiy institut inzhenerov zheleznodorozhnogo transporta
imeni Obraztsova.

YAKOVLEV, V. F.

YAKOVLEV, V. F.- "Certain Problems in Static Design of Elements of Railroad Shunting
Switched." Min of Means of Transportation USSR, Leningrad Order of Lenin Inst of
Engineers of Railway Transport imeni Academician V. N. Obraztsov, Leningrad, 1955
(Dissertations for Degree of Candidate of Technical Sciences)

SO: Knizhnaya Letopis' No. 26, June 1955, Moscow

AUTHOR: Yakovlev, V. F.

TITLE: Influence of the Design of a Rail Switch on the Elastic Properties
           of the Rail Foundation (Vliyaniye konstruktsii strelochnogo
           perevoda na uprugiye svoystva osnovaniya rel'sovykh nitey)

PERIODICAL: Vestn. Vses. n.-i. in-t zh.-d. transp., 1957, Nr 1, pp 53-55

ABSTRACT: The author recommends that in the design of new rail-switch
           contours for the achievement of a smoother variation of the modulus
           of elasticity of the rail foundation the spacing of the switch tie
           rods be made equal.

                                              Reviewer's name not given

Card 1/1

Yakovlev, V.F.

133-8-27/28

AUTHORS: Grave, I.P., Smirnov, M.P., Yakovlev, V.F., (Cands.Tech.Sc.) and Prokop'yev, N.M. (Engineer).

TITLE: Jointless tracks on a monolithic foothold on metallurgical works. (Besstykovyye puti na monolitnom osnovanii v metallurgii).

PERIODICAL: "Stal'" (Steel), 1957, No.8, pp.762-764 (USSR).

ABSTRACT: Service conditions of rails on tracks in some departments of iron and steel works (hot metal ladles, ingot tracks) are discussed. In view of heavy working conditions and difficulties in carrying out proper maintenance, the Leningrad Institute of Engineers of the Railway Transport proposed the use of monolithic concrete bases and welded rail joints for such tracks. Deficiencies and advantages of the monolithic base are discussed. Two versions of a

Card 1/1

monolithic base (Figs.1 and 2 respectively) are described. The method of fixing rails is shown in Fig.3. There are 3 figures.

ASSOCIATION: Leningrad Institute of Engineers of the Railway Transport (Leningradskiy Institut Inzhenerov Zheleznodorozhnogo Transporta).

AVAILABLE: Library of Congress

YAKOVLEV, V.F., kandidat tekhnicheskikh nauk (Leningrad)

Apparatus for determining the trajectory of wheel movement. Zhel.
dor. transp. 39 no.3:79 Mr '57.   (MLRA 10:4)
                     (Car wheels)

TRET'YAKOV, A.D., kand. tekhn. nauk; CHURILOV, M.F., inzh.; YAKOVLEV, V.F., kand. tekhn. nauk.

Experience with maintenance of switch boxes. Put' i put. khoz. no.10: 27-30 O '57.   (MIRA 10:11)

(Railroads--Switches)

YAKOVLEV, V.F., kand. tekhn. nauk (Leningrad)

Frogs manufactured with an allowance for wear. Put' i put. khoz.
no. 7:16 Jl '58.   (MIRA 11:7)
                        (Railroads—Switches)

YAKOVLEV, V.F., kand. tekhn. nauk; INYUTIN, I.S., inzh.

Using electric strain gauges for investigating stresses within
elements and parts. Vest. TSNII MPS [17] no.3:53-54 My '58.
(MIRA 11:6)

(Railroads--Equipment and supplies--Testing) (Strain gauges)

YAKOVLEV, V.F.; kand.tekhn.nauk

Standards for allowable wear on frogs in connection with increase
in train speeds. Zhel.dor.transp. 40 no.10:59 O '58. (MIRA 11:12)
(Railroads--Switches)   (Railroads--Train speed)

AMELIN, S.V., prof., zasluzhennyy deyatel' nauki i tekhniki; IVASHCHENKO,
G.I., kand.tekhn.nauk; SMIRNOV, M.P., kand.tekhn.nauk; YAKOVLEV,
V.F., kand.tekhn.nauk

Test performance on the track of new flat-type switch boxes.
Vest.TSNII MPS 18 no.8:40-44 D '59.   (MIRA 13:9)
(Railroads--Switches)

YAKOVLEV, V.F., kand.tekhn.nauk

Unevenness of the rail line in the frog and switch area.
Sbcr.LIIZHT no.166:5-26 '59.   (MIRA 13:6)
                    (Railroads--Trace)

YAKOVLEV, V.F., kand.tekhn.nauk

Effect of switch design on the stiffness of the rail lines.
Approximate static calculation of the switch point to with-
stand vertical forces. Sbor.LIIZHT no.166:27-52 '59.
(MIRA 13:6)

(Railroads--Switches)

YAKOVLEV, V.F., kand.tekhn.nauk

    Contact strength of rail line elements in turnout areas.
    Vest.TSNII MPS 19 no.4:47-50 '60.   (MIRA 13:7)
          (Railroads--Rails--Testing)

DANILOV, Vladimir Nikolayevich, doktor tekhn. nauk; KOROLEV, K.P., prof.,
        retsenzent; YAKOVLEV, V.F., kand. tekhn. nauk, retsenzent; SER-
        GEYEVA, A.I., inzh., red.; BOBROVA, Ye.N., tekhn. red.

        [Railroad track and its interaction with the rolling stock]
        Zheleznodorozhnyi put' i ego vzaimodeistvie s podvizhnym sostavom.
        Moskva, Vses. izdatel'sko-poligr. ob"edinenie M-va putei soobshche-
        niia, 1961. 110 p.   . (MIRA 14:8)
                                (Railroads--Track)

SHAKHUNYANTS, Georgiy Mikhaylovich, doktor tekhn. nauk; AMELIN, S.V., prof.,
retsenzent; KONSTANTINOV, V.N., dots., retsenzent; SMIRNOV, M.P.,
retsenzent; YAKOVLEV, V.F., retsenzent; BOCHENKOV, M.S., kand.tekhn.
nauk, retsenzent; BROMBERG, Ye.M., retsenzent; YERSHKOV, O.P., re-
tsenzent; ZVEREV, B.N., retsenzent; ZOLOTARSKIY, A.F., retsenzent;
IVASHCHENKO, G.I., retsenzent; LINEV, S.A., retsenzent; MARKAR'YAN,M.A.,
retsenzent; POPOV,V.V.,retsenzent; POPOV,S.N.,retsenzent; SEREBRENNIKOV,V.V.
retsenzent; SHAFRANOVSKIY,A.K.,retsenzent; NOVITSKIY,G.I.,inzh.,retsen-
zent; VIKTOROV, I.I., kand.tekhn.nauk, retsenzent; VYSOTSKIY, A.F.,
kand.tekhn.nauk, retsenzent; SAATCHYAN, G.G., kand.tekhn.nauk, re-
tsenzent; YAKOVLEVA, Ye.A., kand.tekhn.nauk, retsenzent; TITOV, V.P.,
kand.tekhn.nauk, retsenzent; GRUSHEVOY, N.G., inzh., red.; BROMBERG,
Ye.M., kand.tekhn.nauk, red.; KHITROV, P.A., tekhn. red.

[Railroad tracks] Zheleznodorozhnyi put'. Moskva, Vses.izdatel'sko-
poligr.ob"edinenie M-va putei soobshcheniia, 1961. 615 p.
                                          (MIRA 14:12)
1. Kafedra "Zheleznodorozhnyy put'" Leningradskogo instituta inzhene-
rov zheleznodorozhnogo transporta (for Amelin, Konstantinov, Smirnov,
Yakovlev). 2. Vsesoyuznyy nauchno-issledovatel'skiy institut zhelezno-
dorozhnogo transporta (for Bochenkov, Bromberg, Yershkov, Zverev, Zo-
lotarskiy, Ivashchenko, Linev, Markar'yan, Popov, V.V., Popov, S.N.,
Serebrennikov, Shafranovskiy, Novitskiy).3.Vsesoyuznyy nauchno-issledo-
vatel'skiy institut transportnogo stroitel'stva(for Viktorov, Vysotskiy,
Saatchyan, Yakovleva, Titov)
        (Railroads--Track)   (Railroad engineering)

AMELIN, S.V., doktor tekhn. nauk, prof.; SMIRNOV, M.P., kand. tekhn. nauk, dotsent; YAKOVLEV, V.F., kand. tekhn. nauk, dotsent

Investigating the wear resistance of the elements of the switch assembly. Sbor. trud. LIIZHT no.188:5-62 '62.   (MIRA 16:7)

(Railroads—Switches)

AMELIN, S.V., doktor tekhn. nauk. prof.; SMIRNOV, M.P., kand. tekhn. nauk, dotsent; YAKOVLEV, V.F., kand. tekhn. nauk, dotsent

Problems of track and rolling stock interaction within the area of switch tracks. Sbor. trud. LIIZHT no.188:63-117 '62.
(MIRA 16:7)

(Railroads—Track)   (Railroads—Rolling stock)

AMELIN, S.V., doktor tekhn. nauk, prof.; SMIRNOV, M.P., kand. tekhn. nauk,
    dotsent; YAKOVLEV, V.F., kand. tekhn. nauk, dotsent

Investigating the performance of flat type switch assembly
elements in case of various wear conditions of the car wheel
treads. Sbor. trud. LIIZHT no.188:118-150 '62.   (MIRA 16:7)

(Railroads—Switches)

AMELIN, S.V., prof., doktor tekhn.nauk; IVASHCHENKO, G.I., kand.tekhn.nauk; SMIRNOV, M.P., kand.tekhn.nauk; YAKOVLEV, V.F., kand.tekhn.nauk

Deformations and stresses in the 1/18 mark switches. Vest.TSNIIMPS 21 no.7:45-48 '62.   (MIRA 15:12)

(Railroads—Switches)

AM4016854   BOOK EXPLOITATION   S/

Yakovlev, V. F.

Measurement of strains and stresses in machine parts (Izmereniya deformatsiy i
    napryazheniy detaley mashin), 2d ed., rev. and enl., Moscow, Mashgiz, 1963,
    191 p., illus., biblio., 4,800 copies printed.

TOPIC TAGS: stress, strain, machine part, railroad wheel, railroad rail, contact
stress, internal stress, static loading, dynamic loading, microgage, epoxy resin,
stress concentration, tensometer, electrotensometer

PURPOSE AND COVERAGE: The book discussed methods of experimental measurement of
stresses and strains within machine parts. The bases of the new method of measure-
ment of stresses at internal points of parts using baseless ohm-resistance micro-
gages are cited. The practical use of this method is illustrated in the solution
of a number of contact and other problems in the study of spatial stressed state
of parts in static and dynamic loading. I. S. Inyutin participated in the devel-
opment of the methodology. The book is intended for engineers, technicians, and
researchers who study mechanical stress and strain.

Card 1/2

AMELIN, S.V., prof. (Leningrad); SMIRNOV, M.P., dotsent (Leningrad);
    YAKOVLEV, V.F., dotsent (Leningrad)

Facts learned from research and experience. Put' i put. khoz.
7 no.5:21-24 '63.   (MIRA 16:7)

            (Railroads—Track)

YAKOVLEV, V.F., kand. tekhn. nauk

Investigating the dynamic contact deformations of rails. Vest.
TSNII MPS 22 no.4:44-46 '63.   (MIRA 16:8)

1. Leningradskiy institut inzhenerov zheleznodorozhnogo
transporta im. V.N. Obraztsova.
                    (Railroads—Rails—Testing)

AMELIN, S.V., doktor tekhn.nauk; SMIRNOV, M.P., kand.tekhn.nauk;
    YAKOVLEV, V.F., kand.tekhn.nauk

Train speed over switches. Put' i put.khoz. 8 no.6:30-33 '64.
                                                    (MIRA 17:9)

YAKOVLEV, V.F.

Using a centralized feeding system for butt-joint heaters in
the welding of pipes in Yakutia. Stroi. truboprov. no.9:17-18
S '64.   (MIRA 17:10)

1. Trest Nefteprovodmontazh, Ufa.

KRASKOVSKIY, Ye.Ya., kand.tekhn.nauk; TRET'YAKOV, A.V., kand.tekhn.nauk; YAKOVLEV, V.F., kand.tekhn.nauk; BONDYUGIN, V.M., inzh.; ABROSIMOV, V.I., inzh.

Studying rolling friction on roll models. Sbor. st. NIITIAZHMASHa Uralmashzavoda no.6:189-205 '65.

(MIRA 18:11)

YAKOVLEV, V.F., kand.tekhn.nauk; TRET'YAKOV, A.V., kand.tekhn.nauk;
KRASKOVSKIY, Ye.Ya., kand.tekhn.nauk; BONDYUGIN, V.M., inzh.;
ABROSIMOV, V.I., inzh.

Studying contact stresses by means of electric tensometric roll
models. Sbor. st. NIITIAZHMASHa Uralmashzavoda no.6:211-227 '65.
(MIRA 18:11)

AMELIN, S.V., prof. (Leningrad); SMIRNOV, M.P., dotsent (Leningrad);
    YAKOVLEV, V.F., dotsent (Leningrad)

Results of experimental trips. Put' i put. khoz. 9 no.10:
17-19 '65.   (MIRA 18:10)

YAKOVLEV, V.F., doktor tekhn. nauk

Dynamic forces in the contact between wheel and rail. Vest. TSNII
MPS 24 no.5:3-9 '65.
(MIRA 18:9)

1. Leningradskiy institut inzhenerov zheleznodorozhnogo transporta.

L 32990-66   EWT(1)/EWP(e)/EWT(m)/EWP(j)/T/EWP(k)   RM/WH
SOURCE CODE: UR/0058/65/000/011/H062/H062

ACC NR: AR6016270

52 B

AUTHOR: Leonova, L. A.; Yakovlev, V. F.

TITLE: Investigation of the absorption of ultrasound waves in mixtures of ethyl acetate and acetic acid in the frequency interval 1 - 10 Mcs

SOURCE: Ref. zh. Fizika, Abs. 11Zh427

REF SOURCE: Sb. Primeneniye ul'traakust. k issled. veshchestva. Vyp. 20, M., 1964, 135-139

TOPIC TAGS: ultrasound absorption, acetic acid, acetate, absorption coefficient, acoustic measurement, ACOUSTIC FREQUENCY

ABSTRACT: Measurements were made of the absorption of ultrasound in a mixture of ethyl acetate and acetic acid at frequencies 1 - 10 Mcs. Mixtures of eight concentrations were investigated: 1.13, 3.2, 4.45, 6, 8.24, 10, 12, and 14 wt.% of acetic acid. Starting with the concentration 3.2% and higher, the curves showing the frequency dependence of the coefficient of absorption in one wavelength exhibits a clear maximum. The investigations were made by a pulse method with variable path, length using multiple echo signals, and also by the flux method. To increase the reliability of the results, thorough thermostating was used, the working chamber was insulated, and the planes of the quartz and of the reflector were made strictly parallel. The measurement accuracy, estimated from the experimental scatter of the points, is 4 - 6%. The composition of the mixtures was monitored before the measurement and after the

Card 1/2

L 32990-66

ACC NR: AR6016270

measurement by determining the density and refractive index. Data are also presented for the frequency dependence of the absorption in a mixture containing 8.24% acetic acid at temperatures, -30, -20, -10, 0, 10, 20, 30, and 40C. I. Chaban. [Translation of abstract]

SUB CODE: 20

Card 2/2 BK

L 46031-66   EWT(d)/EWT(1)/T/EWP(1)   IJP(c)   WW/GG
                                          SOURCE CODE: UR/0058/65/000/010/E005/E005

ACC NR: AR6013647   45
                                                                          B

AUTHOR: Yakovlev, V. F.

REF SOURCE: Uch. zap. Mosk. obl. ped. in-ta, v. 147, 1964, 33-44

TITLE: An attempt to establish an approximation theory for the liquid state. I

SOURCE: Ref. zh. Fizika, Abs. 10E27

TOPIC TAGS: liquid state, equation of state, approximation method, INTERNAL
ENERGY

TRANSLATION: An analysis of the general properties of liquids based on the approxima-
tion theory for the liquid state of ideal thermal systems is made. The internal ener-
gy of an ideal thermal system is given by an approximate expression of the form:

$$U = E(T) + G(v) + H(b),$$

where $E(T)$ is that part of the internal energy which is connected with the translation-
al motion of the molecules and the excitation of rotational and vibrational energy
levels with respect to the ground state; $G(v)$ is determined by the potential energy of
the particles and depends on the average distance between them; and $H(b)$ is the struc-
tural part of the internal energy and depends on the effective volume occupied by the
molecules. The initial structural compressibility of organic liquids is close to zero,
i. e., $(\partial b/\partial v)_T = 0$ (b is the effective volume occupied by the molecules). The intern-

Card 1/2

L 46031-66

$\mathcal{O}$

ACC NR: AR6013647

al pressure of the liquid P_i, the coefficient of thermal expansion β_p and the coefficient of isothermal compressibility β_T are calculated on the basis of this equation of state. For mercury at 20°C ($\beta_T = 3.87 \cdot 10^{-6}$ atm^{-1}), the value of $(\partial b/\partial v)_T = 0.572$. The internal pressure $P_i = R/\beta_p \cdot v$. In organic liquids, an increase in pressure of 1 atm brings about an increase in molecular pressure of 3 to 5 atm. The thermal expansion calculated on the basis of this model gives a satisfactory agreement with experiment (error ~3%). Ye. Prokop'yev.

SUB CODE: 20/   SUBM DATE: none

auuv

Card 2/2

L 47132-66   EWT(1)/EWT(m)/EWP(j)   WW/JW/GG/RM

ACC NR: AR6013650   SOURCE CODE: UR/0058/65/000/010/E005/E005

38
B

AUTHOR: Yakovlev, V. F.

REF SOURCE: Uch. zap. Mosk. obl. ped. in-ta, v. 147, 1964, 65-77

TITLE: An attempt to establish an approximation theory for the liquid state.   IV

SOURCE: Ref. zh. Fizika, Abs. 10E30

TOPIC TAGS: liquid state, approximation method

TRANSLATION: Formulas for the calculation of viscosity, diffusion and thermal conducti-vity of simple and polyatomic liquids are proposed. Coefficients calculated with these formulas give a satisfactory agreement with experimental values. This justifies the models, axioms and approximations used by the author in describing thermal, caloric and kinetic properties of liquids (see ref. 10E27, 28, 29). Ye. Prokop'yev.

SUB CODE: 20/   SUBM DATE: none

Card 1/1   afs

L 47131-66   EWT(1)/EWT(m)/EWP(j)   WW/JW/GG/RM
                                          SOURCE CODE: UR/0058/65/000/010/E005/E005

ACC NR: AR6013648

AUTHOR: Zakharov, A. A.; Yakovlev, V. F.

REF SOURCE: Uch. zap. Mosk, obl. ped. in-ta, v. 147, 1964, 45-54

TITLE: An attempt to establish an approximation theory for the liquid state. II

SOURCE: Ref. zh. Fizika, Abs. 10E28

TOPIC TAGS: liquid state, approximation method

TRANSLATION: The values of C_i, C_{pi}, γ_i, C_v, $\gamma = C_p/C_v$ for mercury and a number of organic liquids (benzene, chlorobenzene, bromobenzene, toluene, p-xylene, cyclohexane, carbon tetrachloride, chloroform and n-hexane) were obtained using a model of the ideal thermal state of liquids and known tabulated values of C_p (C_p is the heat capacity at constant pressure). Here, C_i is heat capacity at constant internal volume, $\gamma_i = C_{pi}/C_i$ is the adiabatic change of internal volume, and C_{pi} is heat capacity at constant internal pressure. For organic liquids, γ_i does not differ appreciably from unity. Calculations made for toluene showed that γ_i decreases slightly with an increase in temperature. Theoretical equations are obtained which enable one to calcu-

Card 1/2

L 47131-66

ACC NR: AR6013648

0

late the heat capacities of mono- and polyatomic liquids. The heat capacity of mercury calculated from these equations is in satisfactory agreement with known experimental data in the broad temperature range of 0-500°C. The agreement is somewhat worse for liquid metals (sodium, lead, bismuth, tin and potassium), but nevertheless quite satisfactory. For polyatomic organic liquids (carbon tetrachloride, toleune and benzene) the agreement with experimentally obtained heat capacity data is very good. Ye. Prokop'yev.

SUB CODE: 20/   SUBM DATE: none

Card 2/2 afs

ACC NR: AR6013649   ___/EWT(m)/EWP(j)   WW/JW/GG/RM

AUTHOR: Yakovlev, V. F.

SOURCE CODE: UR/0058/65/000/010/E005/E005

REF SOURCE: Uch. zap. Mosk. obl. ped. in-ta, v. 147, 1964, 55-64

TITLE: An attempt to establish an approximation theory for the liquid state. III

SOURCE: Ref. zh. Fizika, Abs. 10E29

TOPIC TAGS: equation of state, heat of vaporization

TRANSLATION: Equations of state for liquid media, derived in part I, are used for the evaluation of sound velocity in organic liquids (benzene, chlorobenzene, bromobenzene, toluene, p-xylene, cyclohexane, carbon tetrachloride, chloroform and n-hexane). The test of results based on the acid adiabatic properties of liquids confirmed that they are correct and sufficiently exact. An equation of type

$$\Lambda = RT\ln P_i/P + \tfrac{1}{2} P_i (b_c - b_l) + RT,$$

describing the vaporization of liquids is obtained, where P_i is the internal (kinetic) pressure of liquid, P is the external pressure, b_c and b_l are the effective volumes occupied by the molecules at the critical point and in the liquid state, respectively. Using this formula, the calculated heats of vaporization at the boiling point ($P=1$ atm)

Card 1/2

L 47133-66

ACC NR: AR6013649

for mercury, benzene, chlorobenzene, bromobenzene, toluene, p-xylene, cyclohexane, carbon tetrachloride, chloroform, n-hexane are in good agreement with experimental values. The deviation from experimental data does not exceed 5%. For toluene, benzene and carbon tetrachloride, the heats of vaporization are calculated for different temperatures. These results confirmed that the calculated heats of vaporization are of sufficiently high accuracy. Ye. Prokop'yev.

SUB CODE: 20/ SUBM DATE: none

Card 2/2 afs

DANILOV, V.N., doktor tekhn. nauk, prof.; YAKOVLEV, V.F., kand. tekhn. nauk; SEMENOV, I.I., inzh.

Dynamic characteristics of the rail support. Vest. TSNII MPS 23 no.7:16-17 '64.   (MIRA 18:3)

1. Moskovskiy i Leningradskiy instituty inzhenerov zheleznodorozhnogo transporta.

SMIRNOV, M.P., kand. tekhn. nauk (Leningrad); YAKOVLEV, V.F., kand. tekhn. nauk
(Leningrad)

Performance of screw pikes under train loads. Put' i put. khoz. 9 no.2:
34-35 '65.   (MIRA 18:7)

YAKOVLEV, V.F.

Device for unloading pipes from trucks. Stroi. truboprov. 10 no.2:
29 F '65.   (MIRA 18:5)

1. Master Stroitel'nogo upravleniya No.3 tresta Neftoprovodmontazh,
Novosibirsk.

KRASKOVSKIY, Yo.Ya., kand. tekhn. nauk, dotsent; YAKOVLEV, V.F., kand.
tekhn. nauk, dotsent; ABROSIMOV, V.A., inzh.

Experimental study of pressure distribution in the friction of
journal bearings of construction machinery. Sbor. trud. LIIZHT
no.201:137-148 '63. (MIRA 17:12)

MARKOVICH, N.M.; YAKOVLEV, V.G.

Self-propelled boring machine. Gor. zhur. no.8:77 Ag '64.
                                          (MIRA 17:10)

YAKOVLEV, V.G., nauchnyy sotrudnik

Pine needle blight. Zashch. rast, ot vred. i bol. 5 no. 8:55 Ag '60. (MIRA 13:12)

(Pine--Diseases and pests)

MASSEN, V.A.; MILOSLAVSKIY, I.L.; PAVLOV, S.P.; POGODILOV, M.N.; SHEVELEV, A.Ye.; KUNITSA, S.S.; YAKOVLEV, V.G.; CHESNOKOV, V.K.; KRYLOV, B.F.; SHIKHANOVICH, B.A.; YAITSKOV, S.A.

Proposals awarded prizes at the 16th All-Union Contest for Electric Power Economies. Prom.energ. 17 no.10:12-14 O '62.

(MIRA 15:9)

(Technological innovations--Competitions)

BABENKO, V.A., inzh.; BRYUKHANOV, A.N., kand.tekhn.nauk; VLADIMIROV, M.F., inzh.;
GERSHMAN, M.S., inzh.; GLUSHKOV, V.N., inzh.; GOLOVNEV, I.F., inzh.;
GOSTEV, V.I., inzh.; KEREKESH, V.V., inzh.; MALIKOV, A.N., inzh.;
MANSUROV, A.M., inzh.; MARTYNOV, V.N., kand.tekhn.nauk; MYSOZHNIKOV,
V.M., kand.tekhn.nauk; NAVROTSKIY, G.A., kand.tekhn.nauk; RASKIND,
V.L., inzh.; REBEL'SKIY, A.V., kand.tekhn.nauk; SKVORTSOV, A.A., kand.
tekhn.nauk; SOKOLOV, I.G., kand.tekhn.nauk; STOROZHEV, M.V., kand.
tekhn.nauk; FEDOROV, A.F., inzh.; KHRZHANOVSKIY, S.M., prof., doktor
tekhn.nauk; TSUKERMAN, M.T., inzh.; SHAPOSHNIKOV, D.Ye., inzh.;
SHEPELYAKOVSKIY, K.Z., kand.tekhn.nauk; SHMYKOV, A.A., dcktor tekhn.
nauk; YAKOVLEV, V.G., inzh., red.; KIRSANOVA, S.B., inzh., red.; GLINER,
B.M., inzh., red.izd-va; SOKOLOVA, T.F., tekhn.red.

[Technological handbook on forging and die forging] Tekhnologicheskii
spravochnik po kovke i ob"emnoi shtampovke. Moskva, Gos.nauchno-tekhn.
izd-vo mashinostroit.lit-ry, 1959. 966 p.   (MIRA 12:4).
                                    (Forging)

"Engineering specifications for making and rebuilding dies." A. N. Bryukhanov
and V. G. Yakovlev (Engr.)   p. 823

YAKOVLEV, V. G.

133-6-4/33

AUTHORS: Ganich, A.A., Zarubin, V.F. and Yakovlev, V.G. (Engineers).

TITLE: Automatic gathering and weighing of blast furnace burden materials with a conveyor belt delivery to skips. (Avtomaticheskiy nabor i vzveshivaniye shikhty dlya domennoy pechi pri transporternoy podache v skip).

PERIODICAL: "Stal'" (Steel), 1957, No.6, pp. 496-500 (USSR).

ABSTRACT: A project of automation of gathering, weighing and con-
veyor belt delivery of burden materials to skips for one
of the Magnitogorsk furnaces designed by Gipromez and the
Sverdlovsk Branch of the Tyazhpromelektroproyekt is des-
cribed (Figs.1 and 2). Operating conditions: furnace out-
put - 2500 ton/day with 270 five-skip charges/day; 5 bur-
den components - sinter, manganese addition (manganese ore
and open hearth slag); acid additions, limestone and coke;
charging sequence can be varied. The diagram of the opera-
tion of the burden gathering system for various charging
sequences is shown in Fig.3. It is expected that a con-
siderable increase in the efficiency of burden delivery
will be obtained with a simultaneous 7.4% decrease in the
weight of the equipment (from 367 to 340 ton/furnace).

There are 3 figures.

Card 1/2

133-6-4/33

Automatic gathering and weighing of blast furnace burden
materials with a conveyor belt delivery to skips. (Cont.)

ASSOCIATION: Magnitogorsk   Branch of Gipromez. (Magnitogorskiy
Filial Gipromeza).

AVAILABLE: Library of Congress

Card 2/2

L 17029-63   EWT(1)/EWG(k)/BDS/ES(w)-2   AFFTC/ASD/ESD-3/AFWL/IJP(C)/SSD
Pz-4/Pi-4/Po-4/Pab-4   AT

S/207/63/000/002/003/025

77

AUTHOR: Yakovlev, V. I. (Novosibirsk)

TITLE: Induction interaction between expanding plas a pinch and external
            electric circuit

PERIODICAL: Zhurnal prikladnoy mekhaniki i tekhnicheskoy fiziki, no. 2,
              1963, 31-38

TEXT: The inductive interaction between a pulsed plasma current and an external
electric circuit not containing other seats of emf has been studied for the case of
a simple solenoid surronding an expanding plasma pinch. For a given hydrodynamics
of the plasma and assuming that 1 - the length to radius ratio of the solenoid is
large, 2 - the plasma expansion is uniform, 3 - the plasma conductivity is constant
over the pinch radius and is inversely proportional to the square of the radius, 4 -
displacement current can be neglected, and 5 - the magnetic permeability of the
plasma is equal to 1, the author calculates the curves for currents induced within
the external circuit and the time variations of the magnetic field within the
plasma, assuming no such field at the initial instant of time. He then proceeds
to calculate and plot the energy supplied by the plasma to the magnetic field, to

Card 1/2

L 17029-63

S/207/63/000/002/003/025

Induction interaction...

the load in the external circuit, and to the heat developed within the plasma itself. He shows also that the energy supply to the outer circuit is possible only for values of the magnetic Reynolds number exceeding a certain critical value. Results can be used for the efficiency estimate of energy conversion from a moving plasma into electrical energy. The problem was suggested by L. A. Zaklyaz'minskiy. There are 5 figures.

SUBMITTED: December 27, 1962

Card 2/2

MOCHALIN, M.P., kand.tekhn.nauk; MARSHEV, A.S., inzh.; YAKOVLEV, V.G., inzh.

SBU-2 and SBu-4 self-propelled drilling rigs. Gor. zhur.
no.6:56-58 Je '62.   (MIRA 15:11)

1. Institut gornogo dela im. Skochinskogo (for Mochalin).
2. TSentral'nyy nauchno-issledovatel'skiy i proyektno-
konstruktorskiy institut podzemnogo shakhtnogo stroitel'stva,
Moskva (for Marshev, Yakovlev).
                        (Boring machinery)

MARKOVICH, N.M.; YAKOVLEV, V.G.

Introducing the SBG-4 automotive trailer drilling unit. Biul.tekh.-ekon.info ,Gos.nauch.-issl.inst.nauch.i tekh.inform. 18 no.1:17-19 Ja '65. (MIRA 18:4)

YAKOVLEV, Vadim Grigor'yevich

(Central Sci Res Inst of physical Culture), Academic degree of
Doctor of Pedagogical Sciences, based on his defense, 25 November
1954, in the Council of the Sci Res Inst of Theory and History of
Pedagogy of the Acad of Pedagogical Sci RSFSR, of his dissertation
entitled: "Active games in the theory and practice of physical
education of school-age children."

Academic degree and/or title: Doctor of Sciences

SO: Decisions of VAK, List no. 24, 26 Nov 55, Byulleten' MVO SSSR, Nol 20,
     Oct 57, Moscow, pp 22-24, Uncl. JPRS/NY-471

Yakovlev, V. G.   Caud Biolog Sci

Dissertation: "Hydrolytic Capacity of Albumin in Relation to the Asymmetry of
                 Its Molecules."

18 March 49

Inst of Biochemistry imeni A. N. Bakh, Acad Sci USSR

SO Vecheryaya Moskva
          Sum 71

YAKOVLEV, V.G.

CA

PROCESSES AND PROPERTIES INDEX

Bleaching beeswax with adsorbent clays of the Voronezh district. V. G. Yakovlev. *J. Applied Chem.* (U. S. S. R.) 8, 707-11 (in German 711) (1935).—Beeswax was successfully bleached with various clays, among which the "green Devon clay" (I) (R. R. station Ikorets) and the "red" coating clay (II) (Novo-Kamenka) were found to be best. The results compare favorably with bleaching carried out with animal charcoal. The chem. compn. of (I) is: H_2O (hygroscopic) 2.65, losses on burning 8.10, SiO_2 41.76, Al_2O_3 32.75, Fe_2O_3 2.27, FeO 8.98, TiO_2 0.00, CaO 2.13, MgO 1.37 and $Na_2O + K_2O$ 0.31%. The corresponding values for (II) are: 8.00, 6.13, 67.36, 13.00, 4.10, 0.00, 0.64, 1.01, 2.00, 1.01%. Results of treatment of vegetable and mineral oils are tabulated. Six references. A. A. Bochtlingk.

METALLURGICAL LITERATURE CLASSIFICATION

YAKOVLEV V-G.

PROCESSES AND PROPERTIES INDEX

8

Hydrophilic properties of medicinal mud. O. A. Dumanskii and V. G. Yakovlev. Colloid J. (U. S. S. R.) 7, 165-70(1941); Chem. Zentr. 1941, II, 3040-1.—The mud used in the spas of Odessa contains 33.0% water, insol. silicates, sulfides, carbonates, phosphates, traces of S, org. material, sol. salts such as $Ca(HCO_3)_2$, $MgSO_4$, $MgCl_2$, KCl, NaCl and 1.61% FeS which is responsible for the dark color. On treating with mineral acids or O from the air there is a change in color. Oxidation also doubles the amount of water bound by the mud, which is attributed to conversion of hydrophobic FeS into hydrophilic hydroxide. The cond. of the mud ($1.44.10^{-3}$ to $2.40.10^{-3}$) and the amount of bound water detd. by Maxwell's formula (16.34 to 20.58%, av. 18% of the total water) are proportional to the concn. of the mud. The amount of bound water diminishes, however, to 9.02% on doubling the content of electrolyte in the mud and is inversely proportional to the temp. (on heating 9.79% of the bound water is lost). To det. the effect of surface-active substances in perspiration on the medicinal mud, 14.108 g. of isovaleric acid was added per 100 g. of dry substance, whereupon the hydrophilic properties of the oxidized or of the unoxidized mud were diminished or increased, resp. F. L. Browne

ASM-SLA METALLURGICAL LITERATURE CLASSIFICATION

Mobility and metabolism of Trypanosoma equiperdum.
I. I. Ivanov and V. G. Yakovlev. *Biokhimiya* 8, 229–33
(1943).—KCN, the respiratory inhibitor, in 0.001 N soln.
has no effect on the mobility of trypanosomes, for at least
an hr. The inhibitor of glycolysis, monobromoacetic
acid, causes a cessation of mobility after several min.
Hence, the energy for movement is probably furnished the
trypanosomes by the breakdown of carbohydrates. If
the glucose content of the blood is lowered, as by insulin,
the mobility of the trypanosomes gradually falls off, and
after 20–60 min., entirely ceases. Sugars which yield
lactic acid may replace glucose. Glycogen is only slightly
effective.

H. Priestley

The dependance of the rate of hydrolysis of proteins on the asymmetry of their molecules. V. G. Yakovlev (Biol. Inst. Kirghiz Branch Acad. Sci. U.S.S.R.). Doklady Akad. Nauk S.S.S.R. 60, 89–92(1948).—Solns. of egg albumin (I) (1%) contg. 0, 0, 18, and 36 g. urea (II)/g. I were held at 38.5° under acid and alk. conditions. The degree of mol. asymmetry was detd. viscometrically by the method of Sinha (C.A. 34, 1535⁹); increase in amino N by the Cu method of Pope and Stevens (C.A. 33, 8141⁹). At pH 2.6 (phosphate buffer) over a period of 6–24 hrs. the amino N increased from 2.10 to 7.80 mg./g. I; for 0, 18, and 36 g. II the increases were: 6.80–16.80, 13.20–20.30, and 19.27–28.70, resp. At pH 10.07 the corresponding changes were: 0.00–0.04, 1.47–4.03, 5.90–8.90, 23.23–24.83. From a plot of these data the relative rate consts. (v) at the beginning of the hydrolyses were obtained. The plots of v vs. (b/a)½ (axial ratios, derived viscometrically) are linear for both acid and alk. hydrolysis. The data of Strachitskii and Chernikov (C.A. 42, 937b) on the tryptic hydrolysis of horse serum albumin are in agreement when recalcd. In similar terms: for 0, 2, 4, and 6 M II values for v are 0.2, 1.6, 8.0, and 26.0; for b/a are 5.6, 6.3, 7.0, and 13.0 resp. I. P. Danehy

YAKOVLEV, V.G.

Varying speed and intensity of the hydrolysis of denaturated globular proteins. Trudy Biol.inst.KirFAN SSSR no.3:3-15 '50. (MLRA 8:5)
(PROTEINS)
(HYDROLYSIS)

YAKOVLEV, V.G.

Syntheses of DL-2,5-dihydroxyphenylalanine from phenols and aromatic hydroxy aldehydes. V. G. Yakovlev (Lab. Khim., Azotistogo Obmena Inst. Biokhim., Acad. Med. Sci., U.S.S.R.). *Zhur. Obshchei Khim.* (*J. Gen. Chem.*) 20, 361-7(1950).—2,5-(HO)$_2$C$_6$H$_3$CHO (I), m. 90°, was obtained in 22.8% yield by oxidation of o-HOC$_6$H$_4$CHO with K$_2$S$_2$O$_8$ in aq. NaOH (cf. Neubauer and Flatov, C.A. 1, 3017). Passage of dry HCl into 100 g. 80% Zn(CN)$_2$ and 35 g. p-C$_6$H$_4$(OMe)$_2$ in 400 ml. C$_6$H$_6$ for 24 hrs., addn. of 55 g. AlCl$_3$, and further passage of HCl for 12 hrs. at 40°, allowing the mixt. to stand 1 day, heating with 1.5 HCl to 100°, steam distn., and extn. of the product from the distillate with Et$_2$O gave 13.23 g. (31.8%) 2,5-*dimethoxybenzaldehyde* (II), m. 51°; the 80% Zn(CN)$_2$ is obtained from ZnCl$_2$ and KCN in aq. EtOH; use of pure NaCN permits isolation of 90% pure Zn(CN)$_2$. Heating 150 g. glycerol and 35 g. H$_3$BO$_3$ 0.5 hr. at 170° and addn. of 20 g. hexamethylenetetramine and 20 g. p-MeOC$_6$H$_4$OH, acidification with aq. H$_2$SO$_4$, and steam distn. gave 27.7% 2-*hydroxy-5-methoxybenzaldehyde* (III), oil, freezing below 4°. 1 (13.8 g.), 18 g. hippuric acid, 12 g. NaOAc, and 44.2 ml. Ac$_2$O heated 1 hr. on a steam bath and allowed to stand 24 hrs. gave 48.1% 5-*keto-2-phenyl-4-(2',5'-diacetoxybenzylidene)-4,5-dihydrooxazole* (IV), m. 191° (from AcOH). Similar reaction of II gave 75% 2',5'-*dimethoxyanalog* (V), m. 179-1° (from EtOH). Similarly, III gave 51.4% of the 2'-*acetoxy-5'-methoxy analog* (VI), m. 176.5-7.0° (from EtOH). Refluxing 9 g. VI, 30 ml. AcOH, 15 ml. Ac$_2$O, 3.5 g. red P, and 30 ml. HI (d. 1.7) 3 hrs., filtration, addn. with 300 ml. H$_2$O, concn. in vacuo in CO$_2$ at 30°, re-evapn., extn. with hot C$_6$H$_6$, drying, soln. in H$_2$O with a little AcOH, addn. of 20% Pb(OAc)$_2$ to ppt. the iodides and PO$_4$, centrifuging, treatment of the filtrate with H$_2$S, filtration, evapn., washing with EtOH, soln. in hot H$_2$O, treatment with SO$_2$, and chilling gave 4.3 g. (74.9%) DL-2,5-*dihydroxyphenylalanine* (VII), m. 232-4° (from H$_2$O). Similar treatment of V gave a 37.6% over-all yield of VII, while IV gave 40.7% VII (5% from o-HOC$_6$H$_4$CHO). VII crystallizes as a monohydrate, losing H$_2$O at 100° and 50 mm.

G. M. Kosolapoff

/o

CA YAKOVLEV, V.G.

Synthesis of D,L-2,5-dihydroxyphenylalanine from phenols and aromatic hydroxy aldehydes. V. G. Yakovlev. Gen. Chem. U.S.S.R. 20, 383-9(1950)(Engl. translation).—See C.A. 44, 6811a.   R. M. S.

CA YAKOVLEV, V.G.

Synthetic preparation of the optical isomers of 2,5-di-hydroxyphenylalanine. V. G. Yakovlev. *Doklady Akad. Nauk S.S.S.R.* **71,** 497-8xi(10?6)).—Condensation of p-MeOC₆H₄OH with hexamethylenetetramine in boric acid. glycerol yielded 30% 2,5-HO(MeO)C₆H₃CHO. Condensation of hippuric acid with the aldehyde yielded 52% 5-*keto*-2-*phenyl*-4-(2-*acetoxy*-5-*methoxybenzylidene*)-2-*oxazoline*, m. 176.5-7.0° (from EtOH). This (1 g.) in 60 ml. of a soln. of 5 ml. concd. HCl in 95 ml. 96% EtOH warmed until clear and allowed to stand 24 hrs. gave 56.8%. 3-*benzamido*-6-*methoxy*-1,2-*benzopyrone*, m. 168.5-9.0° (from 60% AcOH), which on warming with NaOH and acidification gave α-*benzamido*-3-*hydroxy*-5-*methoxycin-namic acid*, decomp. 130-8°, which is similarly obtainable from the above oxazole. The oxazole (10 g.) heated on a steam bath with 3.75 g. NaOH in 50 ml. H₂O, cooled, and treated over 1 hr. with 75 g. 2.5% Na-Hg, then with ice-HCl, gave 76% DL-*N-benzoyl*-β-(2-*hydroxy*-5-*methoxy-phenyl*)*alanine*, decompd. 180-1° (from H₂O). Neutralization of this with cinchonidine in hot H₂O and crystn. at

1°, followed by extn. of the ppt. with 96% EtOH, gave the *cinchonidine salt* of the D(+)-*isomer* (77.2%), needles, decomp. 204-5° (from 25% EtOH). The mother liquor from the above gave 77% corresponding *salt* of the L(−)-*isomer*, m. 101-6° (from 30% EtOH). Treatment of the salts with aq. NaOH, sepn. of the liberated alkaloid, and acidification of the filtrates with HCl to Congo red, gave the resp. *free amino acid* isomers: D(+), m. 135-7°, [α]₆ 37.6° (with 1 equiv. NaOH), and L(−), m. 136-7°, [α]₆ −37.42° (with 1 equiv. NaOH). Boiling these (3 g.) with 15 ml. AcOH, 12 ml. HI (d. 1.7), and 0.4 g. red P 1.5 hrs., filtration, evapn. in CO₂, repeated evapn. with H₂O, extn. with hot C₂H₆ and Et₂O, treatment with Pb(OAc)₂ in the presence of AcOH, depompn. of the Pb salt with H₂S, and evapn. gave the resp. optical isomers of 2,5-*dihydroxyphenylalanine*: D(+), m. 264-5° (from H₂O), [α]₆ 8.55° (with 1 equiv. HCl), and L(−), m. 264-5°, [α]₆ −8.60° (with 1 equiv. HCl). The sepd. isomers are less sol. in H₂O than the racemate. The assignment of configuration is in accordance with the rule that the rotation of D(+)-isomers of amino acids decreases upon addn. of acid to the soln. G. M. K.

cA

Sulfur and nitrogen metabolism in pregnant sheep. V. C. G. Yakovlev, R. N. Odinets, G. N. Ozerova, and K. T. Kanygina. Doklady Akad. Nauk S.S.S.R. 74, 991–4 (1950).—When pregnant sheep are fed 50 g. keratin (from wool hydrolysis) instead of 70 g. linseed cake in the diet, a somewhat higher (than control) yield of wool is obtained from the animals on shearing and indications of better S assimilation are obtained. However, the control groups show better degree of deposition of S in the organism.
G. M. Kosolapoff

YAKOVLEV, V.G.; ODYNETS, R.N.; KANYGINA, I.; OZEROVA, G.N.

Effect of keratin on the wool productivity of sheep. Trudy Biol.
inst. KirFAN SSSR no.4:103-111 '51.   (MLRA 9:10)
        (SHEEP--FEEDING AND FEEDING STUFFS)
        (KERATIN)   (WOOL)

Yakovlev, V. G.

MD

Labeled methionine in the study of the effect of the diet
on protein metabolism.   A. S. Konikova, T. A. Fedorova,
V. G. Yakovlev, and V. V. Bochkarev. *Trudy Primenen
Radioaktiv-Izotop, v Med.* (Moscow: Medgiz) 1955, 259–02;
Referat. Zhur., Khim., Biol. Khim. 1955, No. 8670.—A study
was made of the rate of inclusion of S^{35}-methionine into the
proteins of different tissues of the white rat and of the dis-
appearance rate of the labeled isotopes from the pro-
tein of various organ tissues. The radioactivity was detd.
in isolated tissue proteins 20 hrs., and 2 and 8 days after
the introduction of the labeled methionine. Some of the
rats were kept on starvation for the last 3 days. It was
demonstrated that the inclusion of S^{35}-contg. amino acids
into the organ proteins and tissues (with the exception of
proteins of skeletal muscles) was considerably higher in the
starved rats. The disappearance of the labeled isotopes
from the proteins in the starving rats was of a lower rate
than in those fed normally, with the exception of the pro-
teins of the skeletal muscles.   B. S. Levine

③

YAKOVLEV, V.G.

ODYNETS, R.N.; YAKOVLEV, V.G.; NEDOKHLEBOVA, O.I.

Effect of feeding on the fertility of ewes. Trudy Inst. zool. i
paraz. KirFAN SSSR. no.1:3-7 '54.   (MLRA 10:6)
(Kirghizistan--Sheep--Feeding and feeding stuffs)

YAKOVLEV, V.G.; ODYNETS, R.N.; KANYGINA, K.I.; OZEROVA, G.N.

Wool productivity in sheep as affected by different nutrition
levels. Trudy Inst. zool. i paraz. KirFAN SSSR. no.1:9-24 '54.
(Kirghizistan--Sheep--Feeding and feeding stuffs) (MLRA 10:6)
(Wool)

YAKOVLEV, L.G.

Paths of butterfat synthesis. Trudy Inst. zool. i paraz. KirFAN
SSSR. no.1:31-34 '54.   (MLRA 10:6)
       (Milk)   (Cow)   (Physiological chemistry)

Yakovlev, V. G.

MD

The effect of iodized casein on the metabolism of protein, calcium, and phosphorus in milk cows. R. N. Odynets, K. I. Kanygina, V. G. Yakovlev, I. A. Fantalis, D. N. Korneev, P. I. Mel'nikov, and I. I. Fedotov. Trudy Inst. Zool. i Parazitol. Kirgiz. Filiala Akad. Nauk S.S.S.R. 1954, No. 2, 3–20; Referat. Zhur. Khim., Biol. Khim. 1955, No. 17374.—Iodized casein (9 g.) was added to the ration of milk cows consisting of 14.1 kg. of fodder units and 15.2 g. of digested protein. The addn. of the iodized casein augments the physiol. deposition of the digested ration components. The digestibility of the proteins rose from 60.7 to 64.6%. The deposition of N in the organism rose from 14.99 to 46.04 g./head/day. The depletion of Ca and P from the organism's reserve stopped and the metabolic balance in regard to these substances became pos. With this, the general character of the exchange of Ca with proteins was altered. The amt. of NH₃ N in the products of protein decompn. rose from 5.9 to 7.3%, from urea N 52.7 to 68.1%, and creatinine N 3.5 to 5.4%. The loss of Ca with feces was lessened from 83 to 75.7% and its content in the milk rose from 14.1 to 21.3%. It was concluded that iodized casein stimulated heart activity and respiration and lowered milk secretion from 11.6 to 10.4 kg./day. 'J. S. Levina

⑦

YAKOVLEV, V.G.; MISHCHENKO, I.K.

Data on the electrophoretic study of serum proteins in the arterial and venous blood of cows. Izv.AN Kir.SSR no.1:81-89 '55.   (MIRA 9:9)
(Blood--Analysis and chemistry) (Serum)

YAKOVLEV, V.G.; OZEROVA, G.N.; MISHCHENKO, I.K.; DRANISHNIKOVA, L.M.

Periodicity in the function of the mammary glands in absorbing and secreting substances. Izv.AN Kir.SSR no.1:91-102 '55. (MIRA 9:9)
(Mammary glands)